

What is claimed is:

1. A no-load quick rise hydraulic lifting mechanism comprising:
 - a) a hydraulic actuator, the hydraulic actuator comprising:
 - a hydraulic cylinder having an extendible piston rod;
 - an oil reservoir;
 - a drive pump operably connected to the hydraulic cylinder, the drive pump comprising a drive cylinder and a drive piston;
 - a suction-discharge valve operably connecting the oil reservoir, the drive pump, and the hydraulic cylinder during hydraulic-actuated lifting;
 - a drive pump over-pressure relief valve operably connecting the drive pump and the oil reservoir; and,
 - an oil vacuum relief valve operably connecting the oil reservoir and the hydraulic cylinder, the oil vacuum relief valve allowing oil to flow from the oil reservoir into the hydraulic cylinder during mechanically-actuated lifting;
 - b) a lift arm operably connected to the piston rod by a pin, the lift arm being pivotable about an axis; and
 - c) a mechanical actuator, the mechanical actuator comprising:
 - a ratchet mechanism; and,
 - an articulated linkage connecting the ratchet mechanism to the lift arm, wherein, the articulated linkage is connected to the lift arm by the same pin that connects the piston rod to the lift arm.

2. A no-load quick rise hydraulic lifting mechanism comprising:
 - a lift arm, the lift arm being pivotable about an axis;
 - a hydraulic actuator operably attached to the lift arm; and,
 - a mechanical actuator operably attached to the lift arm, the mechanical actuator comprising:
 - a ratchet mechanism; and,
 - an articulated linkage connecting the ratchet mechanism to the lift arm, wherein the articulated linkage comprises a pull bar, a push bar, and a pivotable link interconnecting the pull bar and the push bar, the pull bar being operably connected to the ratchet mechanism, the push bar being operably connected to the lift arm.
3. The no-load quick rise hydraulic lifting mechanism as recited in claim 2, wherein the hydraulic actuator is connected to the lift arm by a pin, the articulated linkage being connected to the lift arm by the same pin that connects the hydraulic actuator to the lift arm.
4. The no-load quick rise hydraulic lifting mechanism as recited in claim 2, wherein the mechanical actuator further comprises a selector selectively activating and deactivating the mechanical actuator.
5. The no-load quick rise hydraulic lifting mechanism as recited in claim 2, wherein the pivotable link pivots about a point between the connections to the push bar and the pull bar.
6. A no-load quick rise hydraulic lifting mechanism comprising:
 - a lift arm;
 - a mechanical actuator operably connected to the lift arm; and,

a hydraulic actuator operably connected to the lift arm, the hydraulic actuator having an oil vacuum relief.

7. The no-load quick rise hydraulic lifting mechanism as recited in claim 6, wherein the oil vacuum relief comprises a valve.

8. The no-load quick rise hydraulic lifting mechanism as recited in claim 6, wherein the hydraulic actuator further comprises a hydraulic cylinder and an oil reservoir, the oil vacuum relief relieving vacuum in the hydraulic cylinder.

9. The no-load quick rise hydraulic lifting mechanism as recited in claim 8, wherein the oil vacuum relief comprises a valve, the oil vacuum relief valve allowing oil to flow from the oil reservoir into the hydraulic cylinder during mechanically-actuated lifting.

10. The no-load quick rise hydraulic lifting mechanism as recited in claim 6, wherein the hydraulic actuator further comprises a hydraulic cylinder; an oil reservoir; a drive pump; a suction-discharge valve; and a drive pump over-pressure relief valve.

11. A no-load quick rise hydraulic lifting mechanism comprising:

a lift arm, the lift arm being pivotable about an axis;

a hydraulic actuator operably connected to the lift arm, the hydraulic actuator having an oil vacuum relief;

a mechanical actuator operably attached to the lift arm, the mechanical actuator comprising:

a ratchet mechanism; and,

an articulated linkage connecting the ratchet mechanism to the lift arm, wherein the articulated linkage comprises a pull bar, a push bar, and a pivotable link interconnecting the pull bar and the push bar, the pull bar being operably connected to the ratchet mechanism, the push bar being operably connected to the lift arm.

12. The no-load quick rise hydraulic lifting mechanism as recited in claim 11, wherein the oil vacuum relief comprises a valve.

13. The no-load quick rise hydraulic lifting mechanism as recited in claim 11, wherein the hydraulic actuator further comprises a hydraulic cylinder and an oil reservoir, the oil vacuum relief relieving vacuum in the hydraulic cylinder.

14. The no-load quick rise hydraulic lifting mechanism as recited in claim 13, wherein the oil vacuum relief comprises a valve, the oil vacuum relief valve allowing oil to flow from the oil reservoir into the hydraulic cylinder during mechanically-actuated lifting.

15. The no-load quick rise hydraulic lifting mechanism as recited in claim 11, wherein the hydraulic actuator is connected to the lift arm by a pin, the articulated linkage being connected to the lift arm by the same pin that connects the hydraulic actuator to the lift arm.

16. The no-load quick rise hydraulic lifting mechanism as recited in claim 11, wherein the mechanical actuator further comprises a selector that selectively activates and deactivates the mechanical actuator.